

PATENT COOPERATION TREATY

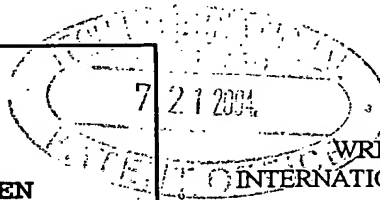
From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

20. 7. 2004

Applicant's or agent's file reference

R04051PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/005236

International filing date (day/month/year)

13. 04. 2004

Priority date (day/month/year)

14. 04. 2003

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. **H02M 3/07, G05F 1/56**

Applicant

RICOH COMPANY, LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Japan Patent Office

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3V

2917

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/005236

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/ 005236

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1 - 5</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1 - 5</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1 - 5</u>	YES
	Claims		NO

2. Citations and explanations

<The following document has been considered for the purpose of this report:>

D1 = JP 4-127307 A(FUJITSU LIMITED, FUJITSU VLSI LIMITED) 28.04.1992, line 19, column 4 to line 12, column 5, Fig 7

D2 = JP 11-8969 A(NEC IC MI-COM SYSTEM K.K.) 12.01.1999, line 18, column 5 to line 24, column 6, Fig 1

D3 = JP 5-111241 A(FUJITSU LIMITED, FUJITSU VLSI LIMITED) 30.04.1993, line 29, column 2 to line 6, column 3, Fig 1

The subject matter of claims 1,5 is considered to involve an inventive step over the documents cited in the international search report for the following reasons:

None of the prior art documents cited in the international search report describes

a second overcurrent protection circuit part configured to compare the output voltage of the current detection circuit part and the output voltage of the charge pump circuit part and reduce the output voltage and current of the constant voltage circuit part when the output voltage of the current detection circuit part is higher than the output voltage of the charge pump circuit part,

and it was not obvious for the person skilled in the art to employ that the technical feature, which presents advantageous effects in that,

even if the output terminal of the charge pump circuit part is short-circuited to ground, the output current of the charge pump circuit part can be reduced to the desired current value, thereby increasing reliability.

Claims 2-4 are dependent on claim 1 and as such also meet the requirements with respect to novelty and inventive step.

WRITTEN OPINION OF THE
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International application No.

PCT/JP2004/ 005236

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
JP 2003-333831 A [PA]	21.11.2003	15.05.2002	15.05.2002
JP 2003-186554 A [PA]	04.07.2003	13.12.2001	13.12.2001

2. Non-written disclosures (Rules 43bis.1 and 70.9)

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>